

CLAIMS

1. A storage medium carrying meta-tracks of N ($N > 1$) bit-rows that store content information, two adjacent meta-tracks being separated by a guard band of at least one bit-row referred to as guard band bit-row, at least one guard band bit-row storing non-content information.
- 5 2. A storage medium as claimed in claim 1 wherein said non-content information comprises clock data to be used for reading said content information from said storage medium.
- 10 3. A storage medium as claimed in one of claims 1 or 2 wherein said non-content information comprises control data to be used for reading/writing content information from/onto said storage medium.
- 15 4. A device for reading a storage medium that carries meta-tracks of N ($N > 1$) bit-rows, two adjacent meta-tracks being separated by a guard band of at least one bit-row referred to as guard band bit-row, said device comprising:
 - an optical unit for generating at least N light spots, receiving at least N reflected light spots and generating at least N analog signals associated each to one of said reflected light spots, in order to read in parallel a meta-track and a guard band bit-row adjacent to said meta-
 - 20 track,
 - means for processing at least N of said analog signals in order to recover content information stored in said meta-track and non-content information stored in said adjacent guard band bit-row.
- 25 5. A device as claimed in claim 4 wherein, said non-content information comprising clock data, said processing means comprise:
 - an analog-to-digital converter for receiving at least N of said analog signals and generating at least N digital signals,

- a phase-locked loop circuit for receiving one of said digital signals that is associated to a light spot that is at least partly reflected by said guard band bit-row such that said digital signal carries said non-content information, and for generating a clock correction signal therefrom,
- 5 - a sample rate converter controlled by said clock correction signal, for receiving N of said digital signals and for generating N corrected digital signals,
- a first detection circuit for receiving said N corrected digital signals and for delivering N sequences of bits that correspond to said content information.
- 10 6. A device as claimed in claim 5 wherein, said non-content information comprising control data, said processing means further comprise a second detection circuit for receiving said clock correction signal and deriving therefrom a sequence of bits that corresponds to said control data.
- 15 7. A device as claimed in claims 5 or 6, wherein said optical unit is designed for generating a specific light spot dedicated to the reading of said guard band bit-row, and said phase-locked loop circuit receives the digital signal derived from said specific light spot.
- 20 8. A device as claimed in claim 4 wherein, said non-content information comprising control data to the exclusion of clock data, said processing means comprise:
- an analog-to-digital converter for receiving at least N of said analog signals and generating at least N digital signals,
 - a sample rate converter for receiving said at least N digital signals and for generating at least N corrected digital signals,
- 25 - a detection circuit comprising:
- a) means for receiving N corrected digital signals and deriving therefrom a reference signal and N sequences of bits that correspond to said content information, and
 - b) means for receiving one corrected digital signal that is associated to a light spot that is at least partly reflected by said guard band bit-row such that said corrected digital
- 30 signal carries said control data, and deriving therefrom a sequence of bits corresponding to said control data,

- a time recovery circuit for receiving said reference signal and at least part of said N corrected digital signals, and for generating a time correction signal used for controlling said sample rate converter.